CENTER FOR DIGITAL GOVERNMENT

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2003 Digital Counties

BEST OF BREED PROGRAMS

DIGITAL COUNTIES SURVEY

Produced by
the Center for Digital Government
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2003 Digital Counties
Best of Breed Programs

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Center for Digital Government

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INTRODUCTION

The Center for Digital Government, in partnership with the National Association of Counties (NACo) and *Government Technology* magazine conducted the nation's first Digital Counties Survey. Underwritten by Microsoft Corp., the Digital Counties Survey examined how county governments have progressed in utilizing information technology to improve the overall delivery of services to their customers and citizens.

Launched in March 2003, the Digital Counties Survey grouped counties into four categories based on population: 500,000 or more; 250,000-499,999; 150,000-249,999; and less than 150,000. All counties in the United States were invited to participate. Officials responded to a set of 17 questions and ranked their jurisdiction according to a four-point scale, providing URLs and background data for final verification and validation. The questions were developed after months of input from recognized local government experts.

Next, the Best of Breed programs were selected from all of the survey responses. Center experts read the responses and based on pre-defined criteria -- including innovation, multi-jurisdictional or multi-agency and collaboration -- nominated outstanding projects. Nominations were provided to a panel of Center professionals who cast their votes. The winning projects chief information officers, IT directors or project managers were contacted to discuss the projects, which resulted in the profiles featured in this report.

Many of the winning projects were Web-based and customer-service focused. Some project's success could be measured by the impressive public response. For example, Lucas County, Ohio launched its Auditor's Real Estate Information System that received 2.3 million hits in its first year. That number is remarkable given the county's population, just under 500,000. This would be the equivalent of every person in the county going through the Web site more than four times.

Another notable project is Greenville County, South Carolina, E-Service Request System that project leaders touted as well-received by its constituents. This project stood out for its simplicity in solving a customer-service problem. Its features weren't much more than an online form and an e-mail process.

An additional striking aspect of these projects was the number of agencies or groups involved in creating enterprise-wide systems. This was the case in Hennepin County, Minnesota, where staff launched the Assessor's Commercial Exchange (ACE) that required collaboration among 27 assessing agencies across the seven-county Minneapolis/St. Paul metropolitan area. ACE allows these agencies to collaborate across jurisdictional boundaries to more accurately compare and assess vacant land, apartment buildings and commercial properties. Involving this many groups meant bringing in the right people with the correct authority to actively participate. Other similar projects included Fairfax County, Virginia's GIS project that makes the functionality of GIS available to all county desktops; and Stearns County, Minnesota's Automated Public Safety System that involved the cooperation of 15 police departments and the county Sheriff's Office.

In looking at the nature of all of the winning projects, what stood out was the creativity, simplicity and economical approach that many leaders took in launching systems. Project budgets ranged from as high as $3 million to an inexpensive $4,500. IT projects that cost a mere $4,500 to launch (the E-Service Request System), but solve a major problem and make people's jobs more efficient are great examples of why IT is so important during these times of budget deficits.

These projects also demonstrated many local IT leader's willingness to create e-government applications that efficiently deliver services to citizen and make jobs easier, faster and more efficient. I personally congratulate all of our Best of Breed winners and all the counties in their efforts to forward digital government.

Cathilea Robinett
Executive Director
Center for Digital Government
Executive Vice President
e.Republic Inc.

Project: Auditor's Real Estate Information System (AREIS)
County: Lucas
State: Ohio
Web Site: http://www.co.lucas.oh.us/AREIS/AREISMain.asp
Contact: Keith Fournier
Title: Director
Department: Lucas County Information Services
Tel: 419.213.4875

BEST OF BREED SUMMARIES

- *Don't put any restraints on your staff. Just let them do their jobs and push forward.*
- *Using the Project Management Institute helped set up the project's direction.*
- *Staff showed other departments the value of the project to gain their buy-in.*

Imagine building a Web site that receives 2.3 million hits in a county where the population is just under 500,000. The number of hits vs. the population would be the equivalent of every person in the county going through that site more than four times. In Lucas County, this landslide of hits is exactly what happened when staff launched the Auditor's Real Estate Information System (AREIS).

AREIS is an integrated technology suite of applications that provides technology services ranging from real-time election results to online personal property tax information on the Web. It was designed using national GIS company's ESRI's baseline GIS technology housed on Oracle and SQL servers and GeoMicro's Alta Map for the Web mapping application. The personal property application features interactive wizards to calculate depreciation, true value, listed values and final tax amounts for small and large businesses in the county. The county auditor no longer has to send out printed forms for businesses to use, and users have an option to file directly online. Their information is then forwarded to the state as required by law.

"We created the AREIS Technology program based on the idea to develop a computer-mapping system to assist in generating real property values to the county, " said Keith A. Fournier, director of Lucas County Information Services. "We began looking at how computer-based mapping can work throughout the county. Then we actually used the AREIS mapping operationally in 2000 to develop spatial real estate valuation models and defended these values successfully. It's all a part of our philosophy to always look at new technology and how we can improve."

In putting the project together, the team first had to resolve issues that arose from the system being a cross-departmental project since it would be used by many county agencies. Fournier's group acquired the information for all of the ground-control and survey points in the county that the county engineer has on file. A Web-based application was built to provide easy access to this

ground control information. An application template was also constructed to simplify this process for the participating departments. Since they were asking the departments to do something in a different way, initially this didn't go over well.

"The departments were not immediately sold on GIS," said Fournier. "We had to show them the value of what we were doing and what you had to do to put that information on the Web. We had to help them understand how to format it and what information we can put there. Because the programming is fairly straightforward, it's basically all templates developed by in-house staff."

Selling the agencies on the idea meant working with them to develop the formats and the information to put on the Web. They also facilitated the marketing process by creating promotional items like press releases. "We really became part of the solution by helping them work through the process and applying a methodology to show them what we could do for them. We showed them the template and how it works."

In managing the day-to-day elements of constructing AREIS, Fournier's group used the Project Management Institute (PMI) as a guide. "We have three people on staff who are designated as Project Management Professionals," said Fournier. "They are very knowledgeable of project management methodologies, including ways to set up a project, the development of project charters and methods to work through it. It was also helpful in developing a Web application, even though it is much less complex than putting in a new human resources/payroll system or a project of that scope. Regardless, we used project management techniques to set up preliminary timelines and develop an approval process prior to going live with AREIS applications."

"The development of the AREIS Technology Suite leveraged the value of our existing disparate systems -- including HP3000 databases, MS SQL Server, GIS layers and document images -- by providing integrated access of real estate information of both internal county staff and the citizens of Lucas County," said Leslie Rhegness, GIS programming manager.

All of the expertise that went into making AREIS function is paying off as the system's capabilities are being used for more than what was intended. The GIS functionality was recently used to develop gypsy moths mitigation plan. Other departments such as the Board of Elections and the Health Department are also doing a great deal of work with it. "It's very surprising the kind of impact we've had and how the county is being affected," added Fournier. "You come to work and you want to do something positive -- and this really is. It's truly amazing."

Citizens have taken to it as well. Fournier noted that people are using it at night and early evenings. Sunday evening gets more hits than others, because realtors have taken clients out to look at properties and then they get home and look at information on adjacent houses. "I've had several people come up to me and say they're so glad they found the AREIS site. It impacted their decision about the house they are going to buy or build," said Fournier.

"We've had an unbelievable response to AREIS. You obviously want to put out a Web site that everyone is going to use, and when you do you don't know what is going to happen. So, the big surprise for me was its popularity," said Gary Kleinfelter, Internet technology manager. "It's a nice feeling that people need the site that you developed."

Project: Assessor's Commercial Exchange
County: Hennepin
State: Minnesota
Web Site: http://www.co.hennepin.mn.us/assessor/assessor.htm
Contact: David Beckman
Title: Information Technology Manager
Department: IT Development - Application Design and Construction
Tel: 612.348.6012

BEST OF BREED SUMMARY

- *Ensure that all of the right people are involved in the project.*
- *Be flexible enough to deploy a new application if the original doesn't function effectively.*

The Assessor's Commercial Exchange (ACE) launched by Hennepin County is a great example of a successful multi-agency, multi-jurisdictional collaboration among 27 assessing agencies across the seven-county Minneapolis/St. Paul metropolitan area. It is a real-time extranet application for managing commercial property assessment information and is considered to be one of the first of its kind.

According to county officials, the application revolutionized the way commercial property assessment information is accessed and maintained. Now these 27 agencies can collaborate across jurisdictional boundaries to more accurately compare and assess vacant land, apartment buildings and commercial properties. These agencies have immediate access to the most current sales valuation information, including property photos.

Built on technology using Sybase's Enterprise Application Server (EAServer), ACE allows assessing agencies to enter and update commercial property sales information for properties residing within their jurisdictions. This allows other assessing agencies to search for comparable properties, view that information, generate detailed or summary reports, and pull comparable reports on commercial property, apartments and vacant land from anywhere that they can connect to the Internet.

"I think what makes this application special is that we were able to provide a facility for collaboration across the Twin Cities metropolitan area," said David Beckman, information technology manager with the Application Design and Construction Group. "Prior to ACE, there was another database application that all of the assessors in the area were using for assessing commercial property. To use the old application, assessors were basically passing disks around between the different assessing units with information from some of the other assessing agencies within the Twin Cities area. Sometimes they got information, sometimes they didn't. And often by the time they got the information it was outdated. Now we are able to manage commercial

property assessment in real time online to ensure that all 27 assessing agencies have access to that information."

With so many agencies involved in the process, it was important to ensure that all of the right representatives participated from the start. Each person provided input and helped reach agreements on a common format and look that would influence the way in which they were going to enter and view information. "We had 27 different agencies so we had to ensure that there was good representation from those so that there would be buy-in to actually use the application. You also have to communicate with these folks about issues, such as project status and when things are going to be coming their direction."

Additionally, ACE was the first extranet application they developed, and it was important to make sure they had all of the technical resources available to solve any problems. "We had some infrastructure issues that we had to deal with," said Beckman. “We also had some technology issues we were dealing with as we got right up to the deployment date and realized we were not going to be able to deploy it and have a stable application. So we had to change from a proprietary scripting language to Java. In a couple of months, we were able to rewrite the application."

Once ACE launched, training became an important element to its successful use. "We spent more time doing training than we originally expected," noted Beckman. "You don't always know how much training you are going to have to deal with, particularly outside of your own organization. This was an area in which I think we did a good job."

So far, all of this effort paid off. ACE recently received the "Distinguished Assessment Jurisdiction Award" from the International Association of Assessing Officers. And now it has received the Best of Breed award from the Center for Digital Government.

Project: County GIS
County: Fairfax
State: Virginia
Web Site: http://www.co.fairfax.va.us/gov/dit/default.htm
Contact: Thomas Conry
Title: Branch Manager
Department: Information Technology
Tel: 703.324.3909

BEST OF BREED SUMMARY

- *Providing real-time GIS to citizens and county staff.*
- *Totally digital process from capture of parcel and zoning data to distribution on the Web and delivery to the printers for publication.*
- *GIS Accessible to all county desktops – with little or no cost to the user.*

Most cutting-edge state IT leaders are pushing for enterprise-wide applications that can be used by all government agencies. Now this same trend is beginning to take shape in local government. A good example is Fairfax County's GIS program, an estimated $2 million project that is available from all county desktops and is used extensively in decision-making throughout county government.

"We've implemented an infrastructure that makes GIS widely available in the county," said Thomas Conry, branch manager of the GIS Office at the Department of Information Technology. "Just about anyone connected to the county plan has access to GIS. This capability could include up to 8,000-9,000 users."

Project leaders worked closely with other agencies to establish the enterprise data in a commonly accessible location and make it available in a standard format, making it possible to integrate a growing library of county data. "We now have over 400 layers of information and it's growing," said Conry. "We've worked with different agencies to enable them to understand GIS and integrate it into their operations. Our staff offers countywide service, and we don't have a mission other than to serve other agencies around GIS."

Using applications, such as ESRI tools and Microsoft Visual Basic, GIS staff maintain parcel, zoning and map data for the entire county, and they work with the Police Department, Fire and Rescue, Planning and Zoning, Health and Human Services and others. "We work with all of these areas to help them understand spatial technology and how to bring it into their systems," he said. "We've also implemented a number of Web applications for the general public to able to use spatial data, particularly around property areas -- and that has been extremely successful. We now have a major application that serves out parcel and aerial and ortho photography for given properties. We implemented that application two years ago without much fanfare and within a year we began serving up one million maps on that application."

In launching the project, the main challenges had to with people, hardware, software and applications. "There were challenges in all four areas," explained Conry. "From the people side, our goal is to get agencies to understand and start to use GIS and then come to a point where they're willing to dedicate internal staff resources to GIS and then they can start to internalize that. We want to help agencies understand technology and then start to integrate that on their own and pick up basic GIS capability in their agency, and then we can move onto the next agency and kind of be the Johnny Appleseed in terms of the technology.

"On the hardware side, we're building an architecture and infrastructure that could [reliably] serve GIS to 10,000 potential users, serve data to those users and provide a set of tools," he continued. "We've done that and it has taken time for the investment. And the design and evolving architecture and security needs changed as computer requirements, resources and software tools increased. It has been a moving target and we're building it as it's evolving.

"From the application side, the challenge is to get applications out there and work with people in their specific areas so they don't have to become experts to use GIS," added Conry. "One of the application challenges concerns the new tools. We're an ESRI shop here. Some of the tools open up the ability to do a wider range of Web-based applications. We're getting ready to move into that. We're also getting ready to roll it out in a public mode. It has been an evolving programming environment; but we've got the skills and staff so we've brought in contractors to augment that. It has certainly been a moving picture to be able to maintain it."

As the process unfolded, it inadvertently uncovered some difficulties with the data itself. Conry noted that as they began looking at the data, they uncovered some blemishes and realized there were problems. "We had to deal with issues such as address problems," he said. "Most county data has parcel numbers or addresses. There were many areas where we didn't have complete data on addresses. A structure would come up with incomplete address information and we would have to scrub it. We saw these gaps, but quickly fixed them."

This process also revealed some unexpected things about data lifecycles. "There is a whole lifecycle issue with data," he said. "We were surprised to realize we would have to develop an approach to data lifecycles, because data has to be maintained. It has to have a certain freshness to it, and we've had to do a lot of work in that area."

All of these features and capabilities are only the tip of what the county's GIS program has to offer. Next, Conry noted, they plan to put up a wider range of Web-based applications to serve the public. "We're getting ready to move into that area," he added. "We'll be rolling it out soon."

Project: Online County Recruitment
County: Orange
State: California
Web Site: https://jobs.ocgov.com/virtualjobapp/index.asp
Contact: John Wheeler
Title: Assistant Chief Information Officer
Department: CEO's Office, Human Resources
Tel: 714.834.3147

BEST OF BREED SUMMARY

- *They went out of their way to engage the customers and request their feedback on the system.*
- *Communication through regular meetings played a critical role.*
- *When the project became too large to manage, they stepped back and looked at the application in an incremental fashion.*
- *They took the application out to customers to test it.*
- *Effective marketing increased its overall usage.*

Orange County created an online recruitment system that can compete with the best systems in private industry. The system was developed to help county government compete with other government entities and private industry for qualified job candidates.

Human Resources launched the system after a survey revealed that there was a high dissatisfaction with the recruitment process that was often regarded as too slow and lacking in communication to let applicants know where they were in the process. At a budget of $350,000, the department worked with outsourced vendor-contractor ACS that performed hands-on programming to provide many of the features that comprise the system.

Many of the system's capabilities were designed to address the common complaints about the old method. It has the ability to provide proactive e-mail communication regarding county job openings to candidates who have expressed prior interest. It stores job application templates to reduce the time it takes to apply. It also does the following: provides online feedback regarding the applicant's status; provides candidates immediate feedback on whether they are qualified to apply for a specific position based on a new online self-assessment test.

"I believe that our system is one that is leading-edge technology in respect to government," said Marguerite Adams, recruiting and marketing manager for the CEO's Office in Human Resources. "We are spearheading a new direction that can keep up with the pace that is needed to draw talent into the workforce. We are able to then provide better customer satisfaction to both internal and external customers that includes our applicants."

Building the system required bringing the recruitment processes of some 25 different agencies under one umbrella since the agencies had their own approaches. "Our county is very decentralized, especially between Human Resources and the IT environment," explained Adams. "Although we wanted to recognize our current business processes, we wanted to take it as an opportunity to move forward in a direction that would be the most effective use. In other words, not just duplicate everything in our business practices, but our best practices within the organization."

It also meant forging a new path into uncharted territory. "When we got started there weren't any examples to follow," said John Wheeler, assistant chief information officer in the CEO's Office. "So, I think the biggest challenge was designing the online system so it would be at least close enough to all our existing business practices."

As the application developed, IT leaders immediately realized it was larger than anticipated. They had to take a step back and simplify the complexities by pulling it apart and approaching it in increments. "We actually had to take time out nine months ago and look at the application from the ground up -- reorganize it, rewrite it with some new technology and regroup a lot of the business processes from the applications perspective so it could serve as a platform for future growth and functionality," said Wheeler. "This activity brought together a lot of the loose ends."

This kind of organizational effort required the formation of tight teams and the implementation of weekly and sometimes twice-weekly meetings to discuss issues such as design work. "I think that was the key to our success," said Wheeler. "We worked through the requirements in great detail. We had the human resources people and the hands-on programmer in the same room, and they really talked in great detail about what was the requirement for the business process and what would the screens look like. They got down to it so that when things were developed and the technical people came back with the solution it would be a really close match to what the people had in mind when they started out -- that was another key to success."

Once the team had the application designed, they turned to the customer agencies to obtain their feedback. Engaging the customers in this way turned into another success story. "They felt they were a part of developing the system," said Adams. "When we said we were going to do something, we communicated with the various teams to let them know what was going on. This activity was especially important when there was a hands-on system rollout and when there was actual training involved. We conducted meetings and things of that nature to help promote dialog on any issues that were progressing relative to the system."

Initially the final product rolled out to moderate interest by the public that would be using it. The team quickly snapped to respond to the low interest by promoting it through effective marketing and public relations. This effort drove up the usage rate of Web submissions to 75 percent. Now the project is doing well. "We are proud of this project," added Wheeler. "And we're really excited about it."

Project: Automated Public Safety System
County: Stearns
State: Minnesota
Web Site: http://www.co.stearns.mn.us/departments/is/index.htm
Contact: George McClure
Title: Information Services Director
Department: Information Services Department
Tel: 320.656.6051

BEST OF BREED SUMMARY

- *A partnership with the Bureau of Criminal Apprehension solves rural access issues.*
- *IT leaders acted as consultants to resolve leadership challenges.*

Disasters like 9/11 have taught law enforcement officials the value of inter-jurisdictional and inter-governmental communication. Projects such as Stearns County's Automated Public Safety System are moving in the direction of providing that much-needed communication among multiple law enforcement agencies. Law enforcement agencies throughout the county are working together to share criminal records information, investigation data and other critical information through this secure computer network.

Stearns is the only county in the state with all law enforcement agencies sharing a single, comprehensive law enforcement system. Fifteen police departments and the county Sheriff's Office collaborated to build this single $3 million system. "I never realized how much opportunity there is for better communications between law enforcement agencies," said George McClure, information services director for the Information Services Department. "Historically, police departments all keep their own sets of information in their own computer systems and databases. What we have done is share a comprehensive law enforcement solution."

The county partnered with the Minneapolis-based Bureau of Criminal Apprehension (BCA) to establish a private, secure computer network running to all of the county police departments. "The hub is in St. Cloud, and we have a T1 frame-relay network that allows the other departments to share the system," said McClure. "It also runs off of a mobile computing module, which works through laptops situated in squad cars. There is also an integrated jail system, a communications piece, e-mail capabilities and chat."

One of the first technical challenges of establishing the system was extending a communications infrastructure to rural areas. "You can't provide the technology in the rural police departments without some kind of technology or network infrastructure – that aspect was really a key technology piece and is why we partnered with BCA," explained McClure. "They implemented this piece out to the rural locations and paid for the monthly cost of that network, which is about $100,000 per year. The county pays for the maintenance of all of the routers and equipment."

From the business side, IT leaders were next faced with smoothing out the relationships among the 15 police departments and the Sheriff's Office. They had to figure out a leadership strategy with a crew that is traditionally accustomed to calling their own shots. "We had to approach this as consultants bringing in a value-added benefit," said McClure. "We also worked hard to understand the business they are in and position ourselves well as consultants. I think over time we earned the respect of the various police chiefs because of our knowledge of IT and a consultative approach."

In the end, McClure gained a healthy appreciation for law enforcement itself. He learned the complexities of the business and the lack of tools available. "Before this solution was put in place, the officers had to call in everything verbally through dispatch," he said. "Now with the laptops in the cars they get access to all of the records information, databases, information for the National Crime Information Center, the capability to download mug shots and more. I really learned what opportunity is out there for improving and augmenting our law enforcement technology – and there was a lot of room for improvement."

Project: Intranet
County: Prince William
State: Virginia
Web Site: http://www.pwcgov.org
Contact: Maneesh Gupta
Title: Information Systems Division Chief
Department: Office of Technology
Tel: 703.792.6845

BEST OF BREED SUMMARY

- *Individual meetings were conducted with 35 agencies to resolve buy-in issues.*
- *A Web Managers Working Group was formed to include internal and technical staff in the development process.*
- *Brown bag lunches and boardroom meetings were held to educate the general agency users on how the system functions.*
- *Agency-specific modules also helped gain buy-in.*

A robust intranet is one way to allow access to county information, forms and services. Prince William County officials understand this idea and developed an extensive intranet service to provide collaborative project management, centralized calendaring, announcements, application access, and workflow processes.

The intranet initiative was initially launched as a My Desktop application that featured static information and simple forms. Employees could not find any information or transact anything online. The upgraded system turned that around to provide online transactions and customizable information to meet employees' needs.

"The site has grown into a central point where everybody can find and collaborate on documents," explained Maneesh Gupta, information systems division chief for the Office of Technology. "And the project is not slowing down. We still have a list of agency-specific requirements we want to expand and enhance. So as we move forward, it's going to become more dynamic."

As they first designed the application, staff had to figure out whether or not the My Desktop features needed to be accessed via a browser or on the PC itself. "After several iterations, we decided to put it in the browser mode as opposed to changing the desktop," said Gupta. "The reason for developing the browser was that the other applications that we wanted to develop -- which we did subsequently do -- were browser-based. So getting staff used to the browser and the environment would actually take us to a higher level and we wouldn't have a buy-in issue later down the road."

Next, they had to address those “buy-in” issues for the initial launch. Gupta and John Roessler, e-government manager, began meeting with all 35 agencies on an individual basis to help develop agency-specific content that was not available prior to My Desktop. "They each have applications that are particular to their agency within their agency module, so we have controlled access," said Roessler. "We provided a dissemination point for some of their information and applications -- and this also facilitated buy-in and more widespread support for this."

"By giving the agencies their specific modules, we were able to satisfy their needs first and then provide the enterprise-wide applications that were also beneficial to them at the same time," said Gupta.

Agency needs were also addressed through a group, called the Web Managers Working Group chaired by the Office of Information Technology. It included people, from internal staff to Information Technology Department personnel. Representatives from the agencies joined the group that is designed to address Internet issues and garner agency support so that representatives will go back and promote the application.

"We also did brown-bag lunches and meetings in the boardroom for a wider audience," said Gupta. "Basically, we invited everybody in the county who wanted to attend. We had to demonstrate the system's capabilities. I think being this upfront was a better way to move forward."

All of this inclusion and promotion paid off. "The intranet went from something that nobody looked at, to something that people now look at on a daily basis," added Roessler. "Now we have an intranet that people looked at once or twice a month, to maybe find a form, to a site that has 90,000 visits a month. It has become an integral tool within county government."

Project: Wireless Initiative
County: Charles
State: Maryland
Web Site: http://www.charlescounty.org/it/
Contact: Richard Aldridge
Title: Director and Chief Information Officer
Department: Department of Information Technology
Tel: 301.645.0724

BEST OF BREED SUMMARY

- *While constructing the network, officials quickly realized the true meaning of "barriers" when it came to getting the signal from one place to another.*
- *The learning curve provided future knowledge that aided in rebuilding the network after a disaster hit.*

Sometimes being a smaller county offers more opportunities to do big things. This kind of opportunity arose when Charles County, an area with a population of less than 150,000, needed to move data from one area of the county to another. They solved this dilemma by launching the Wireless Initiative that allowed seven buildings to be connected to the main county government building without having to create the kind of infrastructure a traditional network required.

The network, which operates using Cisco Aironet Wireless Bridges, allows services provided by the main government building to be offered to the other buildings, providing a throughput of 10-11Mbps vs. 1.5Mbps if purchased. It also offers users greater bandwidth and reliability than the county's local carrier.

The county strategically opted to purchase its own wireless equipment and create its own infrastructure. This act freed it up from monthly carrier bills, saving over $3,500 per month. The investment is paying off. Originally launched on a three-year $87,000 budget, over the course of the last 14 months, the network broke even. "The return on investment for the initiative has been tremendous," said Richard Brannon, network specialist and project manager with the Department of Information Technology.

In building the network, Air Link Automation Consultant Bill Curran worked with Aldridge's team to provide assistance with equipment configuration and cable specifications on cable lengths. As construction got under way, they quickly realized that some project barriers were coming from literal barriers. In short order, they realized that they couldn't shoot wireless through buildings and trees.

"At one point in time, a wireless connection that had been working flawlessly suddenly went off-line," said Ty Fuqua, network division manager at the Department of Information Technology. "After a quick trip to the rooftop, we discovered that the Historical Preservation Society had rolled a 19th century three-story Victorian-style house into the line-of-sight of the yagi antennae. We then figured out how to work the signal off of a higher point to get the site we were trying to get to. We decided to use water and radio towers. Then we had to figure out a way to get the power up there. We took advantage of Power Over Ethernet (POE) to provide electricity to the wireless bridges. Because of the length limitations of the wireless antennae cables, the bridge equipment needed to be placed outdoors in weatherized boxes. The most efficient way to power these bridges in the remote locations was using POE."

The construction of the network also provided some unexpected benefits, especially in the areas of disaster continuity and emergency services. For example, last April when a major tornado hit, officials quickly realized the advantages of having a wireless network.

"The tornado came straight through our county and tore up 24 miles from west to east in 26 minutes, damaging over 1,000 buildings and destroying over 300 of them" said Richard Aldridge, director and chief information officer for the Department of Information Technology. "We lost our rubberized roof on the county government building and our antennas that pointed to all of the different buildings; but it was only a matter of a couple of days before we had our wireless antennas back up. Plus, we were able to serve Maryland state agencies and others that were coming into our parking lots, which helped us service our citizens. We were able to deliver Internet access wirelessly almost immediately, which was unheard of in previous disasters, according to veteran first responders."

Additionally, the recovery time was reduced from the knowledge gained from building the network. "When we had to start building it point to point, we realized how easy it had become, because we already had overcome the learning curve," explained Aldridge. "The lesson learned: once we understood the technology and implemented it, we could do just about anything anywhere we wanted and knew its capabilities so that we could implement it quickly and make it work."

Project: E-Service Request System
County: Greenville
State: South Carolina
Web Site: http://www.greenvillecounty.org/servicerequest/request.asp
Contact: Susie Paddock
Title: Greenville County Webmaster
Department: Information Systems Department
Tel: 864.467.7534

BEST OF BREED SUMMARY

- *Developing the application using in-house staff and off-the-shelf software made the project very economical.*
- *In-house staff also met training needs.*

Greenville County created a near-perfect customer service tool when it launched its E-Service Request System on a shoestring budget of $4,500. Now citizens can access the program 24 hours a day, seven days a week to submit and view service-request status at any time. The E-Service Request System also records and tracks requests for service and general inquiries or complaints received from the public.

It was launched to move the county away from a paper-based system to a more online e-mail-based system that responded faster to customers. The new system is Web-based and allows the general public and county council members to submit and search requests for service at any time. It features a "View Request Status" link that allows users to check the status of their requests without compromising confidentiality; assigns numbers to each request submitted, which can be tracked and managed by county staff in various ways.

Staff ensure that all requests for services or inquiries about a specific department policy and procedures are forwarded via e-mail to the correct staff member for action or resolution. This action provides constituents with the most qualified county resource to handle their requests and respond within seven working days.

Built by in-house IT staff, the system was designed using off-the-shelf applications, such as Active Server Pages, Java Script and Microsoft Visual Interdev. The Information Systems Department also uses Microsoft Internet Information Services as its Web server and SQL server for the database on the backend. "Since we used existing hardware and software it was more cost effective to write the program," said Susie Paddock, Greenville County webmaster in Information Systems.

The project timeline didn't take long and once it was up and running, in-house staff also trained others to use it. Today the system provides a wealth of benefits, including less paperwork, less customer traffic, improved customer service, and improved countywide community relations.

All of the effort paid off as the public's response to the system has been tremendous. "Our constituents are very pleased that they can communicate with us 24 hours a day," added Paddock. "It is preventing people from having to drive downtown to provide a form or from having to wait for callbacks. We turn the requests around faster and get service out to the citizen quicker by having it online."

Project: Online Jury System
County: Maricopa
State: Arizona
Web Site: http://www.superiorcourt.maricopa.gov/jury/index.asp
Contact: Marcus Reinkensmeyer
Title: Trial Courts Administrator
Department: Superior Court of Arizona
Tel: 602.506.5830

BEST OF BREED SUMMARY

- *Working and vendor groups were formed to enhance communication and resolve technical challenges.*
- *A strong vendor partnership helped resolve technical difficulties and supply an excellent system.*

Maricopa County's Online Jury System is a great example of how to smoothly integrate one system into a new one. This is what happened in Spring 2001 when the county implemented a new online jury system with advanced technology that supports the entire business operation. They successfully integrated an interactive voice response (IVR) system with a newly designed online Web-based jury system that allows jurors to transact business online or via a kiosk.

The new jury system allows citizens to do the following: use a Web-based jury deferment interface to defer or request release from jury service; an interactive voice response system that allows a prospective juror to telephone the court and accept, defer or be excused from service – all without manual intervention; and a kiosk that issues payment checks and letters to employers for jurors on the spot. Additionally, the system features bar-code capabilities, identification numbers, and badges that can be printed online and then scanned at the courthouse to avoid creating long lines when jurors check in.

"We wanted to use the technology to make jury service easy and user-friendly," said Marcus Reinkensmeyer, trial courts administrator with the Superior Court of Arizona, Maricopa County. "We tried to provide all of the features online and make it as easy as possible. We also designed the kiosk system so that at the end of their service the jurors were paid quickly and efficiently. The idea was to create one-stop shopping for jurors much like a bank service."

Working on an estimated $1 million budget, the system was built through a strong partnership with Omnitech (which was later bought by ACS) that worked with court technical staff to merge and integrate the new system with the old IVR system. The partnership was also fueled by the vendor's desire to implement its system in such a large county. "They were very interested in displaying their product in a court this size, and they put a lot of effort into it," said Andy Cicchillo, webmaster for the Superior Court.

They got started using Microsoft Project to map out milestones and related timeline elements. They also formed working groups with business leaders and a technology group with Omnitech representatives. “The regular meetings involved keeping folks on their main mission and 100-percent focused,” said Reinkensmeyer.

Next the team confronted issues related to system integration, because the transition had to be seamless. Prospective jurors could not be put off, therefore, interrupting the entire court process because one system or another wasn’t functioning properly. “We had to make the new Web-based jury system interface with an old Bull mainframe,” said Cicchillo. “As we began our work we had to be careful as we added new features, such as the automatic calendar. We couldn’t have the jurors pick a date that the new system wouldn’t allow you to defer. We figured out a way to let them defer out further.”

The process also entailed integration with other standing systems. Prospective jurors came from lists of registered voters and driver’s license lists that were merged into the jury system. “We have a big investment in existing equipment and working environments that we didn’t want to just throw out and start from scratch,” explained Reinkensmeyer. “We just wanted to leverage efficiencies with the new system.”

They also used an Oracle relational database to help create a feature that allows jurors to fill out questionnaires online, which saves scanning input. “Oracle is so easy to get information in and out, which made it very simple,” said Cicchillo.

The entire process worked well. The project came in on budget and on time. Reinkensmeyer noted that they had a great incentive to achieve these goals, because they only had approved funding for one fiscal year. “It created incentive to finish on time, because we didn’t want to go back and ask for special funding in the next year,” he said. “We said, ‘This is going to be finished.’ Then as staff suggested enhancements, we knew we could add them later. We kept notations on them and we have a lot of great ideas.”